QUALSERVE

Santa Clara Valley Water District

QualServe Performance Indicators Water and Wastewater Utilities Survey Benchmarking Summary

October 2004

prepared by

APQC
AMERICAN PRODUCTIVITY
& QUALITY CENTER

Qualserve Performance Indicators for Water and Wastewater Utilities 2004 Survey

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Introduction

The primary objective of this initiative is to assess the performance of water and wastewater utilities using a variety of high-level measures. These measures are designed to help participating organizations improve their operational efficiency and effectiveness. Utility managers will use this information to determine where his/her utility's performance resides within the industry peer group. High-level indicators were selected as the starting point for the system because they are more likely to be recognizable and applicable at large numbers of utilities. This survey provides an opportunity to comment on next steps beyond this benchmarking. This survey represents the result of the efforts of various organizations and individuals. AWWA/AWWARF staff brought together representatives from various organizations to develop performance indicators. During two workshops, these individuals set out to build on what others have already researched, developed and communicated, and to do it in a way that might draw continuing support from utilities that will both provide and use performance indicator data. A narrower project scope was proposed as a start so participating utilities will have opportunities to decide which indicators have the most meaning to them, and those administering the proposed measurement system can learn how to build, finance, manage and sustain an effective data delivery system. Developing a more detailed measurement system is planned in for future periods, including the addition of lower-level indicators. Twenty-three performance indicators were selected for this project. The QualServe business systems were chosen as an organizing framework to guide the design effort so the initial performance indicators database would be familiar to the many utilities participating in other elements of that program.

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Definitions

Definitions

Values were derived from answers provided in the 2004 Qualserve Performance Indicators for Water and Wastewater survey.

Participant Groups:
1) Water Operations - represent those utilities designated as exclusively providing water services.
2) Wastewater Operations - represent those utilities designated as exclusively providing wastewater services.
3) Combined Operations - represent those utilities designated as providing both water and wastewater services.

Quartile Ranking: Top and bottom quartile can reflect either the 25th or 75th percentile, depending on the direction of favorable performance. For example, if a lower number reflects favorable performance (e.g., cost per employee), the top quartile value would represent the 25th percentile. This percentile would reflect the value above which 75 percent of the responses fall. The converse would apply if the top quartile reflected the 75th percentile. In this case, the percentile would reflect the value above which 25 percent of the responses fall.

Median: Represents the 50th percentile.

A designation of "na" reflects data was not available or applicable for that metric.

Accuracy confidence ratings and frequency distribution data represent the arithmetic mean (average).

Most metric definitions, calculations, and purpose statements originate from the Qualserve Performance Indicators Report.

Performance indicator reporting shows quartiles only if there were 5 or more responses and median only if there were 3 or more.

Definitions, continued

Regions:

Regions have been designated as per the U.S. Census Bureau definitions:

Region I: Northeast states: CT, ME, MA, NH, RI, VT, NJ, NY, PA

Region II: Midwest states: IN, IL, MI, OH, WI, IA, KS, MN, MO, NE, ND, SD

Region III: South states: DE, DC, FL, GA, MY, NC, SC, VA, WV, AL, KY, MS, TN, AR, LA, OK, TX

Region IV: West states: AZ, CO, ID, NM, MT, UT, NV, WY, AK, CA, HI, OR, WA

Region V: Canadian provinces

Participant Summary

Operational Summary

Water Only	69
Wastewater Only	13
Combined Operations	104
Total Participants	**186**

Regional Summary

Region I		**Region V**	
Northeast		**Canada**	
Water	12	Water	1
Wastewater	2	Wastewater	0
Combined	3	Combined	3
	17		**4**
Region II			
Midwest		**International**	
Water	14	Water	0
Wastewater	3	Wastewater	0
Combined	16	Combined	1
	33		**1**
Region III			
South		**Total**	**186**
Water	16		
Wastewater	4		
Combined	48		
	68		
Region IV			
West			
Water	25		
Wastewater	5		
Combined	33		
	63		

Size of Population Served

0-10,000		**More than 500,000**	
Water	7	Water	15
Wastewater	1	Wastewater	4
Combined	7	Combined	18
	15		**37**
10,001-50,000		**Total**	**186**
Water	14		
Wastewater	2		
Combined	23		
	39		
50,001-100,000			
Water	7		
Wastewater	1		
Combined	18		
	26		
100,001-500,000			
Water	26		
Wastewater	5		
Combined	38		
	69		

Participants, continued

Region I: Northeast

State	Utilitiy	Type
CT	Aquarion Water Company of CT	W
	Regional Water Authority	W
	The Torrington Water Co.	W
MA	WhiteWater, Inc.	W
ME	Bath Water District	W
	Kennebec Water District	W
NH	Concord, City of	C
	Pennichuck Corporation	W
NJ	Kearny Water Department	W
NY	Erie County Water Authority	W
NY	Onondaga County Water Authority	W
PA	Buckingham Township	C
	Carmichaels-Cumberland Jt Sewer Authority	WW
	DELCORA	WW
	Fox Chapel Authority	W
	Lehigh County Authority	C
RI	Providence Water	W

Region II: Midwest

State	Utilitiy	Type
IA	Des Moines Water Works	W
	Sioux City Water Plant	W
IL	Central Lake County Joint Action Water Agency	W
	Chicago, City of Department of Water Managem	C
	Greater Peoria Sanitary District	WW
	Naperville Department of Public Utilities (Cityof)	C
	Rock River Water Reclamation District	WW
IN	Elkhart Public Works	C
	Fort Wayne City Utilities	C
	Marion Municipal Utilities	C
	Michigan City Water Dept.	W
	Mishawaka Utilities	C
KS	Arkansas City	C
	Olathe, City of	C
	Tecumseh Rural Water Dist. #8	W
	Wichita Water & Sewer	C
MI	Benton Harbor-St. Joseph WWTP	WW
	Coldwater Board of Public Utilities	C
	Lansing Board of Water & Light	W
	Zeeland Board of Public Works	W
MN	Alexandria Board of Public Works	W
	Grand Rapids Public Utilities Comm	C
MO	City Utilities of Springfield	W
	Kansas City MO Water Services Department	C
	St. Louis, City of	W
OH	Akron Public Utilities Bureau	C
	Butler County DES	C
	Cleveland Division of Water	W
WI	Green Bay Water Utility	W
	La Crosse Water Utility	W
	Milwaukee Water Works	W
	Oak Creek Water & Sewer Utility	C
	River Falls Municipal Utility	C

Region III: South

State	Utilitiy	Type
AL	Anniston Water Works and Sewer Board	C
	Birmingham Water Works and Sewer Board	C
	Mobile Area Water & Sewer System	C
	Sheffield Utilities	C
AR	Beaver Water District	W
	Carroll-Boone Water District	W
	Little Rock Wastewater	WW
FL	Atlantic Beach, City of	C
	Broward Environmental Services	C
	Clearwater, City of	C
	Cocoa, City of	C
	EnvSBC Utilities	C
	Lakeland Water Utilities	C
	Miami-Dade Water and Sewer Department	C
	Orlando Utilities Commission	W
	South Walton Utility Co., Inc.	C
	Tampa Bay Water	W
	Tampa Water Department	W
	Titusville City of	C
	Toho Water Authority	C
	West Palm Beach, City of	C
GA	Cobb County Water System	C
	Columbus Water Works	C
KY	Butler Co. Water System	W
	Louisville Water Company	W
	Northern Kentucky Water District	W
	Owensboro Municipal Utilities	W
	Paducah Water Works	W
	Simpson Co. Water District	W
	Warren Co. Water District	C
LA	New Orleans, S&WB of	C
MD	Washington Suburban Sanitary Comm.	C

Qualserve Performance Indicators for Water and Wastewater Utilities 2004 Survey

Participants

Region III: South, continued

State	Utilitiy	Type
NC	Charlotte-Mecklenburg Utilities	C
	Davidson Water, Inc.	W
	Durham, City of	C
	Fayetteville Public Works Commission	C
	Greenville Utilities Comm.	C
	Orange Water & Sewer Authority	C
SC	Beaufort-Jasper Water and Sewer Authority	C
	Charleston SC Comm. of Public Works	C
	Georgetown County Water & Sewer District	C
	SJWD Water District	W
TN	Athens Utilities Board	C
	Clarksville Gas & Water Department	C
	Memphis Light, Gas and Water Division	W
	Metro Water Services	C
TX	Arlington Water Utilities	C
	Austin Water Utility	C
	Carrollton, City of	C
	College Station Utilities	C
	Denton, City of	C
	El Paso Water Utilities	C
	Fort Worth Water Department	C
	Garland, City of	C
	Longview, City of	C
	Lower Colorado River Authority	C
	New Braunfels Utilities	C
	San Antonio Water System	C
	Weatherford, City of	C
VA	Appomattox River Water Authority	W
	Chesterfield Utilities	C
	Fairfax County WMP	WW
	Hampton Roads Sanitation District	WW
	Henrico County Dept. of Public Utilities	C
	Hopewell Regional Wastewater Trtment Fac.	WW
	Newport News Waterworks	W
	Stafford Department of Utilities	C
	Washington County Service Authority	C

Region IV: West

State	Utilitiy	Type
AK	Anchorage Water & Wastewater Utility	C
AZ	Peoria, City of	C
	Phoenix, City of	C
	Tucson Water	W
CA	Alameda County Water District	W
	Anaheim Public Utilities	W
	Azusa Light & Water	W
	City of Fresno	W
	City of San Diego Metropolitan Water	WW
	Contra Costa Water District	W
	Eastern MWD	C
	Elsinore Valley Municipal Water District	C
	Fresno Wastewater Management Division	WW
	Indio Water Authority	W
	Lake Arrowhead Water and Wastewater	C
	Lompoc, City of	C
	Los Angeles Bureau of Sanitation	WW
	Los Angeles County Waterworks Districts	W
	Oceanside, City of	C
	Pasadena Water and Power	W
	Purissima Hills Water District	W
	Rincon del Diablo M.W.D.	W
	Riverside, City of	C
	San Francisco Public Utilities Commission	C
	San Jose Water Company	W
	Santa Clara Valley Water District	W
	Scotts Valley Water District	W
	South Tahoe Public Utility District	C
	Sunnyvale, City of	C
	Vallecitos Water District	C
	Yuba City, City of	C
CO	Aurora Colorado, City of	C
	Eagle River Water & Sanitation District	C
	Fort Collins Utilities	C
	Pagosa Area Water and Sanitation District	C
	Town of Rangely	C
	Upper Eagle Regional Water Authority	W
	Westminster, City of	C

Region IV: West, continued

State	Utilitiy	Type
HI	Honolulu, City and County of	WW
NM	Albuquerque Bernalillo County Water Utility Autl	C
NV	Henderson, City of	C
	Las Vegas Valley Water District	W
	Moapa Valley Water District	W
	North Las Vegas, City of	C
	Truckee Meadows Water Authority	W
OR	Klamath Falls, City of	C
	Salem, City of	C
	SW Lincoln County Water District	W
	Tualatin Valley Water District	W
UT	Central Utah Water Conservancy District	W
	Jordan Valley Water Conservancy District	W
	Salt Lake Public Utilities	C
WA	Birch Bay Water & Sewer	C
	Bremerton, City of	C
	Kent Public Works	C
	Richland, City of	W
	Richland, City of	WW
	Sammamish Plateau Water and Sewer District	C
	Seattle Public Utilities	C
	Snohomish County PUD	W
	Vancouver, City of	W
WY	Cheyenne Board of Public Utilities	C
	Laramie, City of	C

Region V: Canadian Provinces

	Utilitiy	Type
British Columbia		
	Sun Peaks Utilities Co., Ltd.	C
	Greater Vancouver Regional District	C
	Capital Regional District	W
Manitoba		
	Winnipeg Water & Waste	C

International

	Utilitiy	Type
Cayman Islands		
	Cayman Islands Water Authority	C
Greece		
	EYDAP SA*	C

** Not included in aggregate data.*

Qualserve Performance Indicators for Water and Wastewater Utilities 2004 Survey
Performance Indicators Summary

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Organizational Development										
Organizational Best Practice Index:										
Strategic Planning	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0
Long-term Financial Planning	5.0	5.0	4.0	3.0	5.0	4.0	3.0	5.0	4.0	3.0
Risk Management Planning	2.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0	3.0
Optimized Asset Management	2.0	4.0	3.0	2.0	3.0	3.0	2.0	4.0	3.0	2.0
Performance Measurement	3.0	4.0	3.0	2.0	4.0	3.0	2.0	4.0	3.0	2.0
Customer Involvement	5.0	4.0	3.0	2.0	3.0	2.5	2.0	4.0	3.0	2.0
Continuous Improvement	2.0	4.0	3.0	2.0	3.0	3.0	3.0	4.0	3.0	2.0
Total	22.0	29.0	24.0	17.0	26.0	22.5	18.0	29.0	24.0	17.0
Employee Health & Safety Severity Rate	42.4	3.9	37.8	115.6	6.6	13.8	311.0	7.1	42.2	127.5
Training Hours per Employee	39.8	32.8	19.3	12.0	37.4	32.5	29.8	32.8	22.6	12.0
Customer Accounts per Employee (Water)	1	601	386	259	na	na	na	642	470	348
Customer Accounts per Employee (Wastewater)	0	na	na	na	724	571	244	737	514	298
MGD Water Delivered per Employee	0.81	0.56	0.28	0.19	na	na	na	0.40	0.25	0.18
MGD Wastewater Processed per Employee	0.00	na	na	na	0.52	0.35	0.24	0.34	0.21	0.14

Qualserve Performance Indicators for Water and Wastewater Utilities 2004 Survey
Performance Indicators Summary

Santa Clara Valley Water District		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Customer Relations										
Customer Service Complaints per 1000 Customers	8.7	0.9	5.9	24.9	0.3	1.7	20.5	0.9	7.6	34.3
Technical Quality Complaints per 1000 Customers	69.6	2.8	5.9	19.6	1.0	4.7	18.3	3.2	8.0	18.0
Disruption of Water Service Rate per 1000 Customers										
Planned (less than 4 hours)	na	0.42	2.32	9.00	na	na	na	0.41	1.57	11.74
Planned (between 4 and 12 hours)	8.70	0.18	0.76	1.58	na	na	na	0.16	0.48	1.57
Planned (greater than 12 hours)	43.48	0.00	0.02	0.27	na	na	na	0.00	0.01	0.18
Unplanned (less than 4 hours)	43.48	0.55	1.89	10.05	na	na	na	0.82	2.31	9.58
Unplanned (between 4 and 12 hours)	na	0.14	0.37	2.11	na	na	na	0.15	0.68	1.59
Unplanned (greater than 12 hours)	na	0.00	0.04	0.13	na	na	na	0.00	0.03	0.13
Residential Cost of Water/Sewer Service (Monthly):										
Monthly residential water using 7500 Gs	n/a	$17.20	$22.12	$27.86	na	na	na	$17.24	$20.77	$26.28
Average residential water bill amount for one mth	n/a	$17.70	$23.64	$33.03	na	na	na	$15.17	$21.07	$26.31
Monthly residential sewer using 7500 Gs	n/a	na	na	na	$14.70	$19.76	$29.19	$18.72	$25.92	$32.59
Average residential sewer bill amount for one mth	n/a	na	na	na	$12.32	$17.85	$25.87	$16.89	$22.00	$28.94
Multi-svc, monthly bill - combined svc using 7500 Gs	n/a	na	na	na	na	na	na	$37.07	$42.30	$59.71
Multi-svc, avg residential combined bill for one mth	n/a	$30.94	$44.17	$75.00	na	na	na	$33.52	$42.36	$54.99
Customer Service Cost per Account	$33,678.52	$22.87	$34.79	$50.32	$9.01	$13.85	$21.51	$26.40	$39.34	$52.90
Billing Accuracy Rate per 10,000 Bills	na	7.8	19.8	74.1	4.3	8.6	62.2	5.7	12.5	42.6

Qualserve Performance Indicators for Water and Wastewater Utilities 2004 Survey
Performance Indicators Summary

Santa Clara Valley Water District		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Business Operations										
Debt Ratio	0.20	0.21	0.39	0.54	0.16	0.31	0.42	0.24	0.36	0.46
System Renewal / Replacement Rate (%):										
Water pipeline	754.5%	19.8%	4.9%	1.6%	na	na	na	10.7%	3.1%	1.2%
Water treatment facility and pumping	23.5%	23.9%	7.5%	1.8%	na	na	na	12.0%	4.8%	1.2%
Wastewater pipelines and collections	na	na	na	na	4.2%	2.6%	2.2%	9.7%	2.2%	0.6%
Wastewater treatment facility and pumping	na	na	na	na	13.5%	6.1%	2.7%	17.9%	4.4%	1.5%
Return on Assets	2.4%	3.5%	2.2%	0.7%	3.5%	2.2%	0.2%	4.2%	2.3%	1.0%
Water Operations										
Drinking Water Compliance Rate (% Days)	100.0%	100.0%	100.0%	100.0%	na	na	na	100.0%	100.0%	100.0%
Distribution System Water Loss (%)	0.0%	3.4%	7.1%	12.9%	na	na	na	3.5%	8.3%	13.5%
Water Distribution System Integrity	na	16.2	38.8	62.3	na	na	na	27.7	52.5	112.3
Operations & Maintenance Cost Ratios:										
O&M cost per account	$3,555,750	$210	$290	$523	na	na	na	$162	$260	$405
O&M cost per MG processed	$454	$696	$1,368	$1,999	na	na	na	$927	$1,417	$2,307
Direct cost of treatment per MG	$376	$163	$323	$437	na	na	na	$277	$480	$888
Planned Maintenance Ratios (%):										
Planned maintenance ratio (hours)	44.1%	81.5%	64.1%	41.7%	na	na	na	75.9%	50.0%	33.1%
Planned maintenance ratio (cost)	43.6%	79.1%	60.0%	43.6%	na	na	na	74.7%	50.0%	28.5%
Wastewater Operations										
Sewer Overflow Rate	na	na	na	na	4.38	8.15	11.18	1.75	4.05	9.25
Collection System Integrity	na	na	na	na	3.0	7.6	10.0	3.7	12.6	32.2
Wastewater Treatment Effectiveness Rate (%)	na	na	na	na	99.6%	98.6%	97.3%	99.7%	99.5%	98.3%
Operations & Maintenance Cost Ratios:										
O&M cost per account	na	na	na	na	$155	$195	$294	$166	$274	$446
O&M cost per MG processed	na	na	na	na	$681	$752	$1,243	$1,120	$1,900	$3,041
Direct cost of treatment per MG	na	na	na	na	$500	$715	$752	$528	$789	$1,584
Planned Maintenance Ratios (%):										
Planned maintenance ratio (hours)	na	na	na	na	45.6%	61.8%	71.0%	36.8%	56.9%	75.0%
Planned maintenance ratio (cost)	na	na	na	na	42.7%	53.6%	76.7%	32.7%	56.9%	75.4%

Qualserve Performance Indicators for Water and Wastewater Utilities 2004 Survey
Organizational Development

Organizational Best Practice Index:

Purpose:
To summarize a utility’s implementation of management programs important to water and wastewater utilities.

The practices are the following:
Strategic Planning
Long-term Financial Planning
Risk Management Planning
Optimized Asset Management
Performance Measurement
Customer Involvement
Continuous Improvement

The scoring system is:
· This activity is fully implemented at our utility (5 Points)
· This activity is largely implemented, but there is room for improvement (4 Points)
· This activity is implemented, but there is room for substantial improvement (3 Points)
· This activity is implemented, but only occasionally or without uniformity (2 Points)
· This activity is not practiced at our utility (1 Point)
With seven practices each scoring between 1 and 5, the aggregate score at each utility will range between 7 and 35.

Detailed information for each of the seven practices can be found in the glossary of survey terms.

Santa Clara Valley Water District		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Strategic Planning	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0
Long-term Financial Planning	5.0	5.0	4.0	3.0	5.0	4.0	3.0	5.0	4.0	3.0
Risk Management Planning	2.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	4.0	3.0
Optimized Asset Management	2.0	4.0	3.0	2.0	3.0	3.0	2.0	4.0	3.0	2.0
Performance Measurement	3.0	4.0	3.0	2.0	4.0	3.0	2.0	4.0	3.0	2.0
Customer Involvement	5.0	4.0	3.0	2.0	3.0	2.5	2.0	4.0	3.0	2.0
Continuous Improvement	2.0	4.0	3.0	2.0	3.0	3.0	3.0	4.0	3.0	2.0
Total	22.0	29.0	24.0	17.0	26.0	22.5	18.0	29.0	24.0	17.0

Sample Size	
Water Operations	69
Wastewater Operations	13
Combined Operations	104

Employee Health & Safety Severity Rate

Purpose:
To quantify the rate of employee days lost from work due to illness or injury.

Calculation:
Employee Health and Safety Severity Rate = 200,000 (Total Days Away from Work) / Total hours worked by all employees

Definitions:
- **Total workdays away from work are obtained directly from OSHA Form 300A (or state counterpart) Summary of Work-Related Injuries and Illnesses.**
- **Total hours worked by all employees is the sum of hours actually worked by full-time, part-time, temporary and seasonal employees of the utility.**

Visit www.osha.gov for a complete explanation of this indicator, including applicable definitions.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Employee Health & Safety Severity Rate	42.4	3.9	37.8	115.6	6.6	13.8	311.0	7.1	42.2	127.5

Sample Size	
Water Operations	45
Wastewater Operations	10
Combined Operations	84

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Total work days away from work	6.0	6.6	6.5	6.4
Total hours worked by all employees	6.0	6.4	6.1	6.1

Training Hours per Employee

Purpose:
To measure the quantity of formal training utility employees are actually completing. This indicator is expressed as the number of formal training hours per employee per year.

Calculation:
Training Hours per Employee = Total of qualified formal training hours for all employees / Total FTEs worked by employees during the reporting period

Definitions:
- · Sum of all qualified formal training hours completed by all employees
- · Total hours worked by all employees is the sum of hours actually worked by full-time, part-time, temporary and seasonal employees of the utility.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Training Hours per Employee	39.8	32.8	19.3	12.0	37.4	32.5	29.8	32.8	22.6	12.0

Sample Size	
Water Operations	62
Wastewater Operations	9
Combined Operations	99

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Qualified formal training hours completed by all employees	6.0	5.4	5.3	5.1
Number of full time equivalents (FTEs) worked by employees	6.0	6.5	6.6	6.3

Customer Accounts per Employee (Water and Wastewater)

Purpose:
This indicator is intended to measure employee efficiency.

Calculation:
Customer accounts per employee = Number of accounts / Number of full time equivalents

Definitions:
· Active Customer Account means all customer accounts that were billed for some or all of the reporting period. A single account may include service through more than one water service connection.
· A full-time equivalent (FTE) is the allocation of employee time equal to 2080 hours per year. Use of this term allows data to be normalized around a common measure. Part-time, temporary, and seasonal employees are converted to FTEs based on the total number of compensated hours. Employee time from contracts supporting utility operations and maintenance are applied in the same way. Employee time from engineering and construction of new facilities are not counted in these indicators.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Customer Accounts per Employee (Water)	1	601	386	259	na	na	na	642	470	348
Customer Accts per Employee (Wastewater)	0	na	na	na	724	571	244	737	514	298

Sample Size (maximum)	
Water Operations	64
Wastewater Operations	11
Combined Operations	103

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Number of active water accounts	7.0	6.7	na	6.8
Number of active wastewater accounts	na	7.0	6.8	6.7
FTEs supporting water service (include support)	6.0	6.4	na	6.1
FTEs supporting wastewater service (include support)	na	7.0	6.9	6.1

MGD Water Delivered per Employee

Purpose:
This indicator is intended to measure employee efficiency.

Calculation:
MGD processed per employee = Average MGD delivered / Number of full time equivalents

Definitions:
· Average daily volumes distributed are calculated by dividing the total volume of water distributed during the reporting period by 365. Distributed water is the total volume of water entering the distribution system from all sources, including treatment facilities, well fields, individual wells, and purchased water connections.
· A full-time equivalent (FTE) is the allocation of employee time equal to 2080 hours per year. Use of this term allows data to be normalized around a common measure. Part-time, temporary, and seasonal employees are converted to FTEs based on the total number of compensated hours. Employee time from contracts supporting utility operations and maintenance are applied in the same way. Employee time from engineering and construction of new facilities are not counted in these indicators.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
MGD Water Delivered per Employee	0.81	0.56	0.28	0.19	na	na	na	0.40	0.25	0.18

Sample Size	
Water Operations	66
Wastewater Operations	0
Combined Operations	104

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Average daily volume of water distributed (in MGD)	6.0	6.7	na	6.7
FTEs supporting water service (include support)	6.0	6.4	na	6.1

MGD Wastewater Processed per Employee

Purpose:
This indicator is intended to measure employee efficiency.

Calculation:
MGD processed per employee = Average MGD processed / Number of full time equivalents

Definitions:
· Average daily volumes processed are calculated by dividing the total volume of wastewater processed during the reporting period by 365.
· A full-time equivalent (FTE) is the allocation of employee time equal to 2080 hours per year. Use of this term allows data to be normalized around a common measure. Part-time, temporary, and seasonal employees are converted to FTEs based on the total number of compensated hours. Employee time from contracts supporting utility operations and maintenance are applied in the same way. Employee time from engineering and construction of new facilities are not counted in these indicators.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
MGD Wastewater Processed per Employee	0.00	na	na	na	0.52	0.35	0.24	0.34	0.21	0.14

Sample Size	
Water Operations	0
Wastewater Operations	12
Combined Operations	100

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Average daily volume of wastewater distributed (in MGD)	na	na	6.8	6.6
FTEs supporting wastewater service (include support)	na	na	6.9	6.1

Debt Ratio

Purpose:
The debt ratio quantifies the utility's level of indebtedness.

Calculation:
Debt Ratio = Total Liabilities / Total Assets

Definitions:

· Total liabilities are the entire obligations of the utility under law or equity. (They are categorized as such on the utility's financial statement. In essence, they are the total amount of dollars owed to others. Liabilities are defined and designated by the Government Accounting Standards Board (GASB) or the Financial Accounting Standards Board (FASB) (as applicable to each specific utility). They include outstanding bonds, outstanding long-term debt, outstanding short-term debt, payments owed to others, accounts payable, and deposits collected from customers.)

· Total assets are the entire resources of the utility, both tangible and intangible. (They are categorized as such on the utility's financial statement. They include the total value of properties and claims against others that are owned by the utility as expressed at original cost. Assets are defined and designated by the Government Accounting Standards Board (GASB) or the Financial Accounting Standards Board (FASB) (as applicable to each specific utility). They include accounts receivable, cash, inventories, service delivery facilities (less depreciation), cost of easements, cost of water rights, and all other items of value owned by the utility.)

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Debt Ratio	0.20	0.21	0.39	0.54	0.16	0.31	0.42	0.24	0.36	0.46

Sample Size	
Water Operations	64
Wastewater Operations	12
Combined Operations	100

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Total Liabilities	7.0	6.6	6.8	6.6
Total Assets	7.0	6.6	6.7	6.5

System Renewal / Replacement Rate (%):
Water

Purpose:
This indicator quantifies rate at which the utility is meeting its individual need for infrastructure renewal or replacement.

Calculation:
100*(actual expenditure and reserve / total present worth of renewal and replacement needs for each asset class)

Definitions:
- **Water treatment facilities include all assets associated with treating source water to make it ready for distribution. They include those assets associated with disposal of solids accumulated during treatment.**
- **Water distribution system includes all piping, valves, hydrants, pump stations, storage facilities, service taps and meters, and other appurtenances conveying treated water to customers.**
- **Water miscellaneous assets include surface and ground water resources, source water storage facilities, office buildings, maintenance facilities, laboratories not associated with treatment process control, and land acquired to protect water resources.**

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Water pipeline	754.5%	19.8%	4.9%	1.6%	na	na	na	10.7%	3.1%	1.2%
Water treatment facility and pumping	23.5%	23.9%	7.5%	1.8%	na	na	na	12.0%	4.8%	1.2%

Sample Size (maximum)	
Water Operations	54
Wastewater Operations	0
Combined Operations	79

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Total present worth of renewal and replacement needs	5.0	5.4	na	5.3
Weighted average life (average)	5.0	5.9	na	5.6
Expenditures or funds reserved for renewal / replacement	6.0	6.5	na	6.0

System Renewal / Replacement Rate (%):
Wastewater

Purpose:
This indicator quantifies rate at which the utility is meeting its individual need for infrastructure renewal or replacement.

Calculation:
100*(actual expenditure and reserve / total present worth of renewal and replacement needs for each asset class)

Definitions:
- **Wastewater collection assets include all piping, manholes, clean-outs, pumping facilities and force mains used to convey wastewater to a central location for treatment.**
- **Wastewater treatment facilities include all assets at each facility used to treat wastewater, treat and dispose of solids, and protect air quality.**
- **Wastewater miscellaneous assets include office buildings, maintenance facilities, and laboratories not associated with process control.**

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Wastewater pipelines and collections	na	na	na	na	4.2%	2.6%	2.2%	9.7%	2.2%	0.6%
Wastewater treatment facility and pumping	na	na	na	na	13.5%	6.1%	2.7%	17.9%	4.4%	1.5%

Sample Size (maximum)	
Water Operations	0
Wastewater Operations	8
Combined Operations	74

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Total present worth of renewal and replacement needs	5.0	na	na	5.3
Weighted average life (average)	5.0	na	5.8	5.6
Expenditures or funds reserved for renewal / replacement	6.0	na	5.6	6.0

Return on Assets

Purpose:
Return on assets measures the financial effectiveness of the utility.

Calculation:
Return on Assets = Net Income / Total Assets

Definitions:
· Net Income is titled as such on the utility's financial statement, and is defined and designated by the Government Accounting Standards Board (GASB) or the Financial Accounting Standards Board (FASB), as applicable to each specific utility.
· Total assets are the entire resources of the utility, both tangible and intangible. (They are categorized as such on the utility's financial statement. They include the total value of properties and claims against others that are owned by the utility as expressed at original cost. Assets are defined and designated by the Government Accounting Standards Board (GASB) or the Financial Accounting Standards Board (FASB) (as applicable to each specific utility). They include accounts receivable, cash, inventories, service delivery facilities (less depreciation), cost of easements, cost of water rights, and all other items of value owned by the utility.)

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Return on Assets	2.4%	3.5%	2.2%	0.7%	3.5%	2.2%	0.2%	4.2%	2.3%	1.0%

Sample Size	
Water Operations	63
Wastewater Operations	11
Combined Operations	97

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Net Income	7.0	6.7	6.8	6.5
Total Assets	7.0	6.7	6.9	6.6

Customer Service Complaints per 1000 Customers

Purpose:
This indicator measures the complaint rates experienced by the utility, with individual quantification of those related to customer service and those related to core utility services. It is expressed as complaints per 1000 customer accounts.

Calculation:
Customer Service Complaint Rate = (1000) # customer service associated complaints / # of active customer accounts

Definitions:
· Active Customer Account means all customer accounts of all classes that were billed for some or all of the reporting period. A single account may include service through more than one water or sewer service connection.
· A complaint is an expression of dissatisfaction conveyed to a utility employee acting in his/her official capacity. Complaints may be communicated orally o in writing. To clarify, a complaint is a request for action whereas an inquiry is a request for information.
· Customer refers to an individual service agreement for water or sewer service at a single property, regardless of size or billing category. An individual may own more than one property and be counted as a customer more than once. For example, an individual has three properties and each property has a meter. This utility would count this as three accounts.
· Customer service, in the context of these indicators, refers to relationship factors such as personal appearance, courteousness, helpfulness, professionalism, responsiveness, adherence to traffic laws while driving a vehicle, and timeliness. Also refers to customer support services such as turn-on/turn-off, billing, rate-setting, and communication. All utility employees should have assigned responsibility for good customer service, thereby helping the utility build a positive image within the community.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Customer Service Complaints per 1000 Customers	8.7	0.9	5.9	24.9	0.3	1.7	20.5	0.9	7.6	34.3

Sample Size	
Water Operations	52
Wastewater Operations	8
Combined Operations	81

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Customer service associated complaints	6.0	4.7	4.6	4.4
Number of active customer accounts	7.0	6.7	6.8	6.5

Technical Quality Complaints per 1000 Customers

Purpose:
This indicator measures the complaint rates experienced by the utility, with individual quantification of those related to customer service and those related to core utility services. It is expressed as complaints per 1000 customer accounts.

Calculation:
Technical Quality Complaint Rate = (1000) # technical quality associated complaints / # of active customer accounts

Definitions:
· Active Customer Account means all customer accounts of all classes that were billed for some or all of the reporting period. A single account may include service through more than one water or sewer service connection.

Definitions:
· A complaint is an expression of dissatisfaction conveyed to a utility employee acting in his/her official capacity. Complaints may be communicated orally or in writing. To clarify, a complaint is a request for action whereas an inquiry is a request for information.
· Customer refers to an individual service agreement for water or sewer service at a single property, regardless of size or billing category. An individual may own more than one property and be counted as a customer more than once. For example, an individual has three properties and each property has a meter. This utility would count this as three accounts.
· Technical quality of service complaints are directly related to core services of the utility. They include complaints associated with water quality, taste, odor, appearance and pressure, sewage back-ups and overflows, disruptions of water or sewer service, disruptions of traffic, and facilities upkeep.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Technical Quality Complaints per 1000 Customers	69.6	2.8	5.9	19.6	1.0	4.7	18.3	3.2	8.0	18.0

Sample Size	
Water Operations	55
Wastewater Operations	8
Combined Operations	91

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Technical quality of service complaints	7.0	5.3	5.9	5.2
Number of active customer accounts	7.0	6.7	6.8	6.5

Disruption of Water Service Rate per 1000 Customers
Planned

Purpose:
This set of six indicators quantifies the numbers of water outages experienced by utility customers. Each is expressed as the number of customers experiencing disruptions per 1000 customer accounts per year.

Calculation:
Disruption Rate = (1,000) Number of customers experiencing disruption / Number of active customer accounts

Definitions:
· Active customer account means all customer accounts that were billed for some or all of the reporting period. A single account may include service through more than one water service connection.
· Disruption of (water) service means any and all conditions within facilities or the distribution system under control of the utility whereby a customer loses full water service or has normal delivery pressure reduced below 20 pounds per square inch during a repair. Specific exclusions include: complaints of low pressure that are unrelated to a system condition requiring repair work; repairs to service piping under control of the customer; and shut-offs for nonpayment of bills.
· Planned disruptions are those where prior notice is given to all affected customers. Planned disruptions include new construction tie-ins, and replacements of valves, hydrants, meters, and other appurtenances under non-emergency conditions.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Planned (less than 4 hours)	na	0.42	2.32	9.00	na	na	na	0.41	1.57	11.74
Planned (between 4 and 12 hours)	8.70	0.18	0.76	1.58	na	na	na	0.16	0.48	1.57
Planned (greater than 12 hours)	43.48	0.00	0.02	0.27	na	na	na	0.00	0.01	0.18

Sample Size (maximum)	
Water Operations	54
Wastewater Operations	0
Combined Operations	84

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Planned Water Service Disruptions (less than 4 hours)	5.0	5.3	na	5.2
Planned Water Service Disruptions (Between 4 and 12 hours)	5.0	5.5	na	5.1
Planned Water Service Disruptions (Greater than 12 hours)	5.0	6.0	na	5.6
Active customer accounts	6.0	6.7	na	6.8

Disruption of Water Service Rate per 1000 Customers
Unplanned

Purpose:
This set of six indicators quantifies the numbers of water outages experienced by utility customers. Each is expressed as the number of customers experiencing disruptions per 1000 customer accounts per year.

Calculation:
Disruption Rate = (1,000) Number of customers experiencing disruption / Number of active customer accounts

Definitions:

· Active customer account means all customer accounts that were billed for some or all of the reporting period. A single account may include service through more than one water service connection.

· Disruption of (water) service means any and all conditions within facilities or the distribution system under control of the utility whereby a customer loses full water service or has normal delivery pressure reduced below 20 pounds per square inch during a repair. Specific exclusions include: complaints of low pressure that are unrelated to a system condition requiring repair work; repairs to service piping under control of the customer; and shut-offs for nonpayment of bills.

· Unplanned disruptions include both those performed under emergency conditions where prior customer notice is impossible or impractical, and those which are otherwise planned but for which prior notice was not given. Unplanned disruptions usually occur during emergency pumping facility failures, pipeline breaks, and newly discovered major leaks where there is potential for unsafe conditions or significant property damage.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Unplanned (less than 4 hours)	43.48	0.55	1.89	10.05	na	na	na	0.82	2.31	9.58
Unplanned (between 4 and 12 hours)	na	0.14	0.37	2.11	na	na	na	0.15	0.68	1.59
Unplanned (greater than 12 hours)	na	0.00	0.04	0.13	na	na	na	0.00	0.03	0.13

Sample Size (maximum)	
Water Operations	52
Wastewater Operations	0
Combined Operations	80

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Unplanned Water Service Disruptions (less than 4 hours)	5.0	5.5	na	5.1
Unplanned Water Service Disruptions (4 and 12 hours)	5.0	5.6	na	5.2
Unplanned Water Service Disruptions (Greater than 12 hours)	5.0	6.0	na	5.6
Active customer accounts	6.0	6.7	na	6.8

Qualserve Performance Indicators for Water and Wastewater Utilities 2004 Survey
Customer Relations

Residential Cost of Water/Sewer Service (Monthly):

Purpose:
These indicators allow utilities to compare the residential cost of water and sewer service based upon both a defined quantity of water use and the average residential bill amounts for those services.

This indicator has several parts. A utility reports the individual costs in items 1 – 4 if possible, deferring to options 5 and 6 only if it cannot.
1. Bill amount for monthly residential water service for a customer using 7500 gallons per month,
2. Average residential water bill amount for one month of service,
3. Bill amount for monthly residential sewer service for a customer using 7500 gallons of water per month,
4. Average residential sewer bill amount for one month of service,
5. For multiple service utilities that cannot provide individual costs, the total monthly bill amount for residential water and sewer service for a customer using 7500 gallons of water per month, and
6. For multiple service utilities that cannot provide individual costs, the average residential combined water and sewer bill amount for one month of service

Note: Includes any additional costs added to the bill for basic service that may include other taxes and fees required to be paid by the residential customer to retain basic service.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Monthly residential water using 7500 Gs	n/a	$17.20	$22.12	$27.86	na	na	na	$17.24	$20.77	$26.28
Average residential water bill amount for one mth	n/a	$17.70	$23.64	$33.03	na	na	na	$15.17	$21.07	$26.31
Monthly residential sewer using 7500 Gs	n/a	na	na	na	$14.70	$19.76	$29.19	$18.72	$25.92	$32.59
Average residential sewer bill amount for one mth	n/a	na	na	na	$12.32	$17.85	$25.87	$16.89	$22.00	$28.94
Multi-svc, monthly bill - combined svc using 7500 Gs	n/a	na	na	na	na	na	na	$37.07	$42.30	$59.71
Multi-svc, avg residential combined bill for one mth	n/a	$30.94	$44.17	$75.00	na	na	na	$33.52	$42.36	$54.99

Sample Size (maximum)	
Water Operations	59
Wastewater Operations	12
Combined Operations	103

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Monthly residential water using 7500 Gs per mth	na	6.8	na	6.8
Average residential water bill amount for one mth of svc	na	6.4	na	6.5
Monthly residential sewer using 7500 Gs per mth	na	6.7	6.8	6.8
Average residential sewer bill amount for one mth of svc	na	6.7	6.8	6.6
Multi-svc, monthly bill - comb. svc using 7500 Gs per mth	na	6.9	na	6.6
Multi-svc, avg residential comb. bill for one mth of svc	na	6.9	na	6.4

Customer Service Cost per Account

Purpose:
This indicator measures the amount of resources a utility applies to its customer service program.

Calculation:
Customer Service Cost per Active Account = Total Customer Service Costs / Number of Active Accounts

Definitions:
· Customer Service Costs are all direct salaries, employee benefits, and direct costs including contracts, which are associated with providing the following services to customers, plus a proportional share of total utility indirect costs.
- **Activation of new accounts (including meter and service installation costs)**
- **Meter reads, maintenance, and repair or replacement**
- **Preparation and delivery of bills**
- **Receipt and processing of payments**
- **Records maintenance**
- **Collection of delinquent accounts**
- **Processing of bankruptcies**
- **Provision of turn on / turn off services**
- **Receipt, investigation, and resolution of complaints**
- **Preparation and provision of outreach and educational materials including the Consumer Confidence Report**

Specifically excluded are all costs associated with maintaining service pipelines and customer plumbing on the customer side of the meter if present, or service property line if no meter is present.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Customer Service Cost per Account	$33,678.52	$22.87	$34.79	$50.32	$9.01	$13.85	$21.51	$26.40	$39.34	$52.90

Sample Size	
Water Operations	57
Wastewater Operations	9
Combined Operations	97

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Customer Service Costs (include all supporting functions)	6.0	5.6	6.0	5.8
Number of Active Customer Accounts	7.0	6.6	6.9	6.6

Billing Accuracy Rate per 10,000 Bills

Purpose:
This indicator measures the effectiveness of water and/or wastewater utility billing practices. The calculation shows the number of error-driven billing adjustments per 10,000 bills generated during the year.

Calculation:
Billing Accuracy = (10,000) (# of error-driven billing adjustments during reporting period) / # of bills generated during the reporting period

Definitions:
· Bill means the periodic statement of charges (volumetric, surcharges, and taxes) for water and/or sewer services which are calculated based on known volumes of water delivered or wastewater collected during a specific period of time.
· Error-driven billing adjustment is an adjustment to a customer's charges resulting from an error on the original bill actually sent to the customer, regardless of cause and including all such discoveries made by utility staff, the customer, or a third party. Errors include all those under control of the utility such as meter reads (whether by utility staff or the customer), data entry, and calculations or computer programming. Bills re-issued for estimated bills should NOT be included as a billing error.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Billing Accuracy Rate per 10,000 Bills	na	7.8	19.8	74.1	4.3	8.6	62.2	5.7	12.5	42.6

Sample Size	
Water Operations	51
Wastewater Operations	8
Combined Operations	90

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Bills generated during the reporting period	5.0	6.2	6.4	6.3
Number of error-driven billing adjustments	6.0	5.4	5.7	5.4

Drinking Water Compliance Rate (% Days)

Purpose:
This indicator quantifies the percentage of time each year that a water utility meets all of the health-related drinking water standards in U.S. National Primary Drinking Water Regulations.

Calculation:
Drinking Water Compliance Rate (%) = (100) Number of days in full compliance / 365 days

Definitions:
· Definitions of regulated contaminants and treatment techniques are contained in 40 CFR Part 141 (the National Primary Drinking Water Regulations).
· Non-compliance refers to exceedance of an applicable primary maximum contaminant level or less than full compliance with an applicable treatment technique.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Drinking Water Compliance Rate (% Days)	100.0%	100.0%	100.0%	100.0%	na	na	na	100.0%	100.0%	100.0%

Sample Size	
Water Operations	69
Wastewater Operations	0
Combined Operations	102

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Calendar days when the utility was in full compliance	7.0	6.9	na	6.8

Distribution System Water Loss (%)

Purpose:
This indicator quantifies the percentage of produced water that fails to reach customers and cannot otherwise be accounted for through authorized usage.

Calculation:
Distribution Water Loss (% of distribution) = 100 (Volume of water distributed - Volume billed to customers) / Volume of water distributed

Definitions:
· Water losses are those water volumes that while under control of the utility do not find their way to authorized uses. Water losses consist of real losses and apparent losses. The former are true losses of water from the utility's system, up to the point of customer metering. Apparent losses consist of unauthorized use and inaccuracies associated with metering. Water losses occur throughout the water system, from source water intakes, transmission pipelines, treatment facilities, distribution pipelines and storage facilities. (For this indicator, the focus is on losses from the point's) of distribution through the points of customer service meters.)
· Distributed water is the total volume of water entering the distribution system from all sources, including treatment facilities, well fields, individual wells, and purchased water connections.
· The total volume of water billed to all classes of registered customers, the water supplier, and others.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Distribution System Water Loss (%)	0.0%	3.4%	7.1%	12.9%	na	na	na	3.5%	8.3%	13.5%

Sample Size	
Water Operations	50
Wastewater Operations	0
Combined Operations	87

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Total volume of water distributed for customer use	5.0	6.6	na	6.6
Total volume of water billed to customers	5.0	6.4	na	6.3

Water Distribution System Integrity

Purpose:
This indicator quantifies the condition of the water distribution system, expressed the total annual number of leaks and pipeline breaks per 100 miles of distribution piping.

Calculation:
Frequency Rate = 100 (total number of leaks + total number of breaks) / Total miles of distribution piping

Definitions:
· Distribution piping includes all pipes, valves, hydrants, and other appurtenances conveying treated water between treatment facilities and the final point of utility control over customer service connections. Customer service piping downstream of that point is not part of the distribution system.
· Break means physical damage to a pipe, valve, hydrant, or other appurtenance which results in an abrupt loss of water. Please exclude any break, leak, or failure directly caused by the action of a utility staff person.
· Leak means an opening in a distribution pipeline, valve, hydrant, appurtenance or service connection which is continuously losing water. The rate of leakage may be stable or progressive. Please exclude any break, leak, or failure directly caused by the action of a person authorized by the utility.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Water Distribution System Integrity	na	16.2	38.8	62.3	na	na	na	27.7	52.5	112.3

Sample Size	
Water Operations	53
Wastewater Operations	0
Combined Operations	88

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Total miles of distribution piping	7.0	6.4	na	6.1
Total number of leaks during the reporting period	7.0	5.9	na	5.6

Operations & Maintenance Cost Ratios:

- O&M cost per account
- O&M cost per MG processed
- Direct cost of treatment per MG

Purpose:
Three indicators each are proposed for water utilities to quantify all utility costs related to operations and maintenance, with break-outs of those costs related to water treatment, as related to volumes processed and the number of active customers.

Calculation:
· O & M Cost per Account = Total Operations & Maintenance Costs (less depreciation) / Total number of active customer accounts
· O & M Cost per MG Distributed = Total Operations & Maintenance Costs (less depreciation) / Volume distributed during the reporting period (in MG)
· Direct Cost of Treatment per MG Distributed = Total Direct O & M Costs for Water Treatment / Volume distributed during the reporting period (in MG)

Definitions:
· Active customer account means all customer accounts of all classes that were billed for some or all of the reporting period. A single account may include service through more than one water service connection.
· Total volume of distributed water refers to the total volume of water distributed by the utility during the reporting period. It is reported in millions of gallons.
· Total direct operations and maintenance costs for water treatment is the total costs for salaries, direct benefits, and direct operational and maintenance costs associated with treatment. It includes pumping costs only within treatment facilities but not those associated with delivery of water to treatment facilities.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
O&M cost per account	$3,555,750	$210	$290	$523	na	na	na	$162	$260	$405
O&M cost per MG processed	$454	$696	$1,368	$1,999	na	na	na	$927	$1,417	$2,307
Direct cost of treatment per MG	$376	$163	$323	$437	na	na	na	$277	$480	$888

Sample Size (maximum)	
Water Operations	65
Wastewater Operations	0
Combined Operations	96

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Operations and maintenance costs (less depreciation)	7.0	6.5	na	6.3
Total number of active accounts	7.0	6.7	na	6.8
Total volume processed in million gallons	4.0	6.7	na	6.7
Direct operations and maintenance costs for water	6.0	5.9	na	6.1

Planned Maintenance Ratios (%):

- Planned maintenance ratio (hours)
- Planned maintenance ratio (cost)

Purpose:
This indicator is designed to allow comparison of how effectively utilities are investing in planned maintenance.

Calculation:
· Planned Maintenance Ratio in Percent (Hours) = (100) Hours of Planned Maintenance / (Hours of Planned + Corrective Maintenance)
· Planned Maintenance Ratio in Percent (Cost) = (100) Cost of Planned Maintenance / (Cost of Planned + Corrective Maintenance)

Definitions:
· Planned maintenance is all maintenance undertaken in advance of asset failure. Planned maintenance may be predictive or preventive.
· Corrective maintenance is all maintenance undertaken after asset failure.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Planned maintenance ratio (hours)	44.1%	81.5%	64.1%	41.7%	na	na	na	75.9%	50.0%	33.1%
Planned maintenance ratio (cost)	43.6%	79.1%	60.0%	43.6%	na	na	na	74.7%	50.0%	28.5%

Sample Size (maximum)	
Water Operations	51
Wastewater Operations	0
Combined Operations	84

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Hours of planned maintenance	5.0	4.5	na	4.7
Hours of corrective maintenance	5.0	4.6	na	4.8
Cost of planned maintenance	5.0	4.3	na	4.8
Cost of corrective maintenance	5.0	4.4	na	4.7

Sewer Overflow Rate

Purpose:
This indicator provides a measure of collection system piping condition and the effectiveness of routine maintenance by quantifying the number of sewer overflows per 100 miles of collection piping.

Calculation:
Sewer Overflow Rate = 100 (Total number of sewer overflows during the reporting period) / Total miles of pipe in sewage collection system

Definitions:

· An overflow refers to a discharge from a sewer through a manhole, clean-out, pumping facility, customer floor drain, or the drain in a fixture, if that discharge is related to limitations or problems with collection or treatment system components under control of the utility. Overflows caused by limitations or problems within customer-controlled piping and facilities are specifically excluded from this definition. A single limitation or problem can result in multiple overflows.

· A dry weather sewer overflow is an overflow from a combined sanitary/storm sewer experienced during weather conditions where the portion of flow attributed to storm water is negligible.

· The collection system is comprised of all gravity sewerage piping, manholes, pressure sewers and lift stations under control of the utility from the point of customer property lines to the treatment facility or point of interception by another wastewater utility. Portions of the collection system may convey both sanitary sewage and storm water.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Sewer Overflow Rate	na	na	na	na	4.38	8.15	11.18	1.75	4.05	9.25

Sample Size	
Water Operations	0
Wastewater Operations	12
Combined Operations	88

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Number of sewer overflows	na	na	6.2	6.3
Total miles of pipe in the utility's collection system	na	na	6.4	6.1

Collection System Integrity

Purpose:
This indicator provides a measure of the condition of a sewage collection system. The indicator expresses the number of collection system failures each year per 100 miles of collection system piping.

Calculation:
Failure Rate = 100 (Total number of collection system failures during the year) / Total miles of collection system piping

Definitions:
· Collection system means all gravity sewerage piping, manholes, pressure sewers and lift stations under control of the utility from the point of customer property lines to the treatment facility or point of interception by another wastewater utility. Portions of the collection system may convey both sanitary sewage and storm water.
· A collection system failure means a loss of capacity resulting from a flow restriction in gravity or pressurized sewer systems. Flow restrictions may be caused by deposition of foreign materials; structural failures of pipes, appurtenances, or manholes; deterioration of collection system materials; and root intrusion. Low spots in gravity sewers (sometimes called “swags”) are failures if there is potential for deposition and diminished sewer capacity. If left unattended, collection system failures can result in cave-ins, back-ups or overflows. Maintenance activities such as sewer cleaning, rodding, root removal, and minor repairs to minimize infiltration or inflow are not collection system failures. Electrical and mechanical lift station failures unrelated to flow restrictions, electrical power outages at lift stations, and failures that occur on customer properties, are not counted as failures for the purpose of this indicator.
Excludes any failure directly caused by the action of a person authorized by the utility such as failure caused by incidental damage during construction/repair or incorrectly marked location.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Collection System Integrity	na	na	na	na	3.0	7.6	10.0	3.7	12.6	32.2

Sample Size	
Water Operations	0
Wastewater Operations	11
Combined Operations	88

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Number of collection system failures	na	na	5.6	5.8
Total miles of collection system pipeline	na	na	6.4	6.1

Wastewater Treatment Effectiveness Rate (%)

Purpose:
This indicator quantifies a utility’s compliance with the effluent quality standards in effect at each of its wastewater treatment facilities. The indicator is expressed as the percent of time each year that an individual wastewater treatment facility is in full compliance with applicable effluent quality requirements.

Calculation:
WWTER = 100 (365 – Total number of standard non-compliance days) / 365
If there are multiple facilities, an average is used.

Definitions:
- **An operating/discharge permit is one issued through the National Pollutant Discharge Elimination System or its equivalent delegated state program.**
- **A standard non-compliance day is any day during which the wastewater utility, through actual monitoring, determines that it has not met one or more of its permitted effluent quality standards at an individual treatment facility.**

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Wastewater Treatment Effectiveness Rate (%)	na	na	na	na	99.6%	98.6%	97.3%	99.7%	99.5%	98.3%

Sample Size	
Water Operations	0
Wastewater Operations	10
Combined Operations	60

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Operating/discharge permits issued to the utility	na	na	6.9	6.9
Standard non-compliance days at each facility	na	na	6.4	6.7

Operations & Maintenance Cost Ratios:

- O&M cost per account
- O&M cost per MG processed
- Direct cost of treatment per MG

Purpose:
Three indicators each are proposed for wastewater utilities to quantify all utility costs related to operations and maintenance, with break-outs of those costs related to wastewater treatment, as related to volumes processed and the number of active customers.

Calculation:
· O & M Cost per Account = Total Operations & Maintenance Costs (less depreciation) / Total number of active customer accounts
· O & M Cost per MG Processed = Total Operations & Maintenance Costs (less depreciation) / Volume processed during the reporting period (in MG)
· Direct Cost of Treatment per MG = Total Direct O & M Costs for Wastewater Treatment / Volume processed during the reporting period (in MG)

Definitions:
· Active customer account means all customer accounts of all classes that were billed for some or all of the reporting period. A single account may include service through more than one sewer service connection.
· Total volume processed refers to the total volume of wastewater processed by the utility during the reporting period. It is reported in millions of gallons.
· Total direct operations and maintenance costs for wastewater treatment is the total costs for salaries, direct benefits, and direct operational and maintenance costs associated with treatment. It includes pumping costs only within treatment facilities but not those associated with delivery of wastewater to treatment facilities nor those associated with discharge of treated solids or liquids leaving wastewater treatment facilities. Costs of solids treatment are included.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
O&M cost per account	na	na	na	na	$155	$195	$294	$166	$274	$446
O&M cost per MG processed	na	na	na	na	$681	$752	$1,243	$1,120	$1,900	$3,041
Direct cost of treatment per MG	na	na	na	na	$500	$715	$752	$528	$789	$1,584

Sample Size (maximum)	
Water Operations	0
Wastewater Operations	13
Combined Operations	96

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Operations and maintenance costs (less depreciation)	7.0	na	7.0	6.3
Total number of active accounts	7.0	na	6.8	6.8
Total volume processed in million gallons	4.0	na	6.7	6.7
Direct operations and maintenance costs for water	6.0	na	6.4	6.1

Planned Maintenance Ratios (%):

- Planned maintenance ratio (hours)
- Planned maintenance ratio (cost)

Purpose:
This indicator is designed to allow comparison of how effectively utilities are investing in planned maintenance.

Calculation:
· Planned Maintenance Ratio in Percent (Hours) = (100) Hours of Planned Maintenance / (Hours of Planned + Corrective Maintenance)
· Planned Maintenance Ratio in Percent (Cost) = (100) Cost of Planned Maintenance / (Cost of Planned + Corrective Maintenance)

Definitions:
· Planned maintenance is all maintenance undertaken in advance of asset failure. Planned maintenance may be predictive or preventive.
· Corrective maintenance is all maintenance undertaken after asset failure.

Santa Clara Valley Water District

		Water Operations			Wastewater Operations			Combined Operations		
	Your Site	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile	Top Quartile	Median	Bottom Quartile
Planned maintenance ratio (hours)	na	na	na	na	45.6%	61.8%	71.0%	36.8%	56.9%	75.0%
Planned maintenance ratio (cost)	na	na	na	na	42.7%	53.6%	76.7%	32.7%	56.9%	75.4%

Sample Size (maximum)	
Water Operations	0
Wastewater Operations	10
Combined Operations	78

Confidence in the accuracy of the data, with 1 = very low confidence and 7 = complete confidence

Data Element	Your Site	Water	Waste-water	Combined
Hours of planned maintenance	5.0	na	5.0	4.7
Hours of corrective maintenance	5.0	na	4.9	4.8
Cost of planned maintenance	5.0	na	4.9	4.8
Cost of corrective maintenance	5.0	na	5.1	4.7

Qualserve Performance Indicators for Water and Wastewater Utilities 2004 Survey
Performance Indicators Summary

Santa Clara Valley Water District

		All Participants		
	Your Site	**Top Quartile**	**Median**	**Bottom Quartile**
Organizational Development				
Organizational Best Practices Index				
Strategic Planning	3.0	4.0	4.0	3.0
Long-term Financial Planning	5.0	5.0	4.0	3.0
Risk Management Planning	2.0	4.0	4.0	3.0
Optimized Asset Management	2.0	4.0	3.0	2.0
Performance Measurement	3.0	4.0	3.0	2.0
Customer Involvement	5.0	4.0	3.0	2.0
Continuous Improvement	2.0	4.0	3.0	2.0
Total	22.0	29.0	24.0	17.0
Employee Health and Safety Severity Rate	42.4	6.0	37.8	128.1
Training Hours per Employee	39.8	33.3	21.3	12.1
Customer Accounts per Employee (Water)	1	629	467	319
Customer Accounts per Employee (Wastewater)	0	739	530	297
MGD Water Delivered per Employee	0.81	0.42	0.26	0.18
MGD Wastewater Processed per Employee	0.00	0.37	0.22	0.14

Qualserve Performance Indicators for Water and Wastewater Utilities 2004 Survey

Performance Indicators Summary

Santa Clara Valley Water District

		All Participants		
	Your Site	**Top Quartile**	**Median**	**Bottom Quartile**
Customer Relations				
Customer Service Complaints per 1000 Customers	8.7	0.7	5.9	29.1
Technical Quality Complaints per 1000 Customers	69.6	2.9	7.6	18.1
Disruptions of Water Service Rate				
Planned (less than 4 hours)	na	0.40	1.90	11.51
Planned (between 4 and 12 hours)	8.70	0.16	0.52	1.58
Planned (greater than 12 hours)	43.48	0.00	0.02	0.24
Unplanned (less than 4 hours)	43.48	0.70	2.18	10.05
Unplanned (between 4 and 12 hours)	na	0.14	0.66	1.76
Unplanned (greater than 12 hours)	na	0.00	0.04	0.13
Residential Cost of Water and/or Sewer Service				
Monthly residential water using 7500 Gs per mth	n/a	$17.03	$21.60	$27.30
Avg. residential water bill amount for one month of service	n/a	$16.14	$21.61	$28.36
Monthly residential sewer using 7500 Gs per mth	n/a	$18.05	$25.43	$32.10
Avg. residential sewer bill amount for one month of service	n/a	$16.09	$21.32	$28.94
Multi-service, monthly bill combined svc. using 7500 Gs per mth	n/a	$36.55	$42.30	$53.36
Multi-service, avg. residential combined bill for one mth of svc	n/a	$32.65	$44.17	$56.50
Customer Service Cost per Account	$33,678.52	$23.10	$36.06	$51.02
Billing Accuracy	na	5.8	14.7	50.0
Business Operations				
Debt Ratio	0.20	0.21	0.37	0.49
System Renewal / Replacement Rate				
Water pipeline	754.5%	12.6%	4.1%	1.4%
Water treatment facility and pipeline	23.5%	17.5%	5.0%	1.4%
Wastewater pipelines and collections	na	9.7%	2.4%	0.8%
Wastewater treatment facility and pumping	na	17.4%	5.0%	1.5%
Return on Assets	2.4%	3.8%	2.3%	0.8%

Qualserve Performance Indicators for Water and Wastewater Utilities 2004 Survey
Performance Indicators Summary

Santa Clara Valley Water District

		All Participants		
	Your Site	**Top Quartile**	**Median**	**Bottom Quartile**
Water Operations				
Drinking Water Compliance Rate	100.0%	100.0%	100.0%	100.0%
Distribution System Water Loss	0.0%	3.4%	8.1%	13.1%
Water Distribution System Integrity	na	23.3	45.2	78.7
Operations & Maintenance Cost Ratios				
O&M Cost per Account	$3,555,750	$173	$277	$434
O&M Cost per MG Processed	$454	$856	$1,401	$2,072
Direct Cost of Treatment per MG	$376	$237	$385	$775
Planned Maintenance Ratios				
Planned Maintenance Ratio in Percent (Hours)	44.1%	76.9%	53.6%	34.2%
Planned Maintenance Ratio in Percent (Cost)	43.6%	75.0%	55.6%	32.4%
Wastewater Operations				
Sewer Overflow Rate	na	1.8	4.3	9.5
Collection System Integrity	na	3.6	10.4	26.4
Wastewater Treatment Effectiveness Rate	na	1.00	0.99	0.98
Operations & Maintenance Cost Ratios				
O&M Cost per Account	na	$165	$273	$432
O&M Cost per MG Processed	na	$871	$1,715	$2,763
Direct Cost of Treatment per MG	na	$508	$753	$1,420
Planned Maintenance Ratios				
Planned Maintenance Ratio in Percent (Hours)	na	37.2%	57.3%	75.0%
Planned Maintenance Ratio in Percent (Cost)	na	34.8%	56.9%	76.1%

Qualserve Performance Indicators for Water and Wastewater Utilities 2004 Survey
Frequency Distribution Summary

Santa Clara Valley Water District		Type						Total	
		Water only		Wastewater only		Combined			
		Count	Percent	Count	Percent	Count	Percent	Count	Percent
What is your corporate structure?	Public (part of local governance, non-enterprise)	10	14.5%	1	7.7%	8	7.7%	19	10.2%
	Public (part of local governance, enterprise fund)	25	36.2%	6	46.2%	73	70.2%	104	55.9%
	Public (independent governance)	26	37.7%	6	46.2%	21	20.2%	53	28.5%
	Investor-owned (private or publicly traded stock)	5	7.2%	0	0.0%	0	0.0%	5	2.7%
	Other	2	2.9%	0	0.0%	2	1.9%	4	2.2%
	NA	1	1.4%	0	0.0%	0	0.0%	1	0.5%
Total		69	100.0%	13	100.0%	104	100.0%	186	100.0%

		Type						Total	
		Water only		Wastewater only		Combined			
		Count	Percent	Count	Percent	Count	Percent	Count	Percent
What is your utility's form of Governance?	Board	49	71.0%	7	53.8%	45	43.3%	101	54.3%
	Government	18	26.1%	6	46.2%	58	55.8%	82	44.1%
	Other	1	1.4%	0	0.0%	1	1.0%	2	1.1%
	NA	1	1.4%	0	0.0%	0	0.0%	1	0.5%
Total		69	100.0%	13	100.0%	104	100.0%	186	100.0%

		Type						Total Respondents	
		Water only		Wastewater only		Combined		Count	Percent
		Count	Percent	Count	Percent	Count	Percent		
What utility memberships does your organization maintain?	AWWA	65	94.2%	7	53.8%	98	94.2%	170	91.4%
	AwwaRF	39	56.5%	2	15.4%	49	47.1%	90	48.4%
	WEF	12	17.4%	12	92.3%	76	73.1%	100	53.8%
	AMSA	1	1.4%	9	69.2%	39	37.5%	49	26.3%
	AMWA	28	40.6%	1	7.7%	34	32.7%	63	33.9%
	NAWC	6	8.7%	0	0.0%	3	2.9%	9	4.8%
	WERF	4	5.8%	8	61.5%	33	31.7%	45	24.2%
Total Respondents									

		Type						Total	
		Water only		Wastewater only		Combined			
		Count	Percent	Count	Percent	Count	Percent	Count	Percent
Does your utility have taxing authority?	Yes	19	27.5%	3	23.1%	23	22.1%	45	24.2%
	No	49	71.0%	10	76.9%	81	77.9%	140	75.3%
	NA	1	1.4%	0	0.0%	0	0.0%	1	0.5%
Total		69	100.0%	13	100.0%	104	100.0%	186	100.0%

Qualserve Performance Indicators for Water and Wastewater Utilities 2004 Survey
Frequency Distribution Summary

		Type						Total	
		Water only		Wastewater only		Combined			
		Count	Percent	Count	Percent	Count	Percent	Count	Percent
Is your utility contract operated?	Yes	6	8.7%	0	0.0%	0	0.0%	6	3.2%
	No	62	89.9%	13	100.0%	104	100.0%	179	96.2%
	NA	1	1.4%	0	0.0%	0	0.0%	1	0.5%
Total		69	100.0%	13	100.0%	104	100.0%	186	100.0%

		Type						Total	
		Water only		Wastewater only		Combined			
		Count	Percent	Count	Percent	Count	Percent	Count	Percent
Does your utility have fee setting authority?	Yes	57	82.6%	10	76.9%	82	78.8%	149	80.1%
	No	11	15.9%	3	23.1%	22	21.2%	36	19.4%
	NA	1	1.4%	0	0.0%	0	0.0%	1	0.5%
Total		69	100.0%	13	100.0%	104	100.0%	186	100.0%

		Type						Total Respondents	
		Water only		Wastewater only		Combined		Count	Percent
		Count	Percent	Count	Percent	Count	Percent		
Services provided by your utility?	Raw Water Transmission	33	47.8%	0	0.0%	62	59.6%	95	51.1%
	Potable Water Treatment and Transmissior	58	84.1%	0	0.0%	83	79.8%	141	75.8%
	Potable Water Distribution	61	88.4%	0	0.0%	102	98.1%	163	87.6%
	Wastewater Collection (Combined Sewers)	0	0.0%	2	15.4%	33	31.7%	35	18.8%
	Wastewater Collection (Separated Sewers)	0	0.0%	10	76.9%	94	90.4%	104	55.9%
	Waste Water Treatment	1	1.4%	13	100.0%	94	90.4%	108	58.1%
	Stormwater Collection	0	0.0%	2	15.4%	29	27.9%	31	16.7%
	Stormwater Treatment	0	0.0%	3	23.1%	11	10.6%	14	7.5%
	Reclaimed Water Treatment	3	4.3%	2	15.4%	32	30.8%	37	19.9%
	Reclaimed/Irrigation Water Distribution	7	10.1%	1	7.7%	33	31.7%	41	22.0%
	Electric Generation	11	15.9%	1	7.7%	13	12.5%	25	13.4%
	Electric Distribution	10	14.5%	0	0.0%	18	17.3%	28	15.1%
	Natural Gas Distribution	2	2.9%	0	0.0%	5	4.8%	7	3.8%
	Solid Waste Collection	0	0.0%	2	15.4%	16	15.4%	18	9.7%
	Solid Waste Transfer/Disposal	0	0.0%	2	15.4%	16	15.4%	18	9.7%

		Type						Total	
		Water only		Wastewater only		Combined			
		Count	Percent	Count	Percent	Count	Percent	Count	Percent
Please indicate your utility's interest in participating in future metrics and process benchmarking activities with other utilities to establish industry-wide	High	50	72.5%	12	92.3%	78	75.0%	140	75.3%
	Medium	19	27.5%	1	7.7%	25	24.0%	45	24.2%
	Low	0	0.0%	0	0.0%	1	1.0%	1	0.5%
	NA	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total		69	100.0%	13	100.0%	104	100.0%	186	100.0%

Qualserve Performance Indicators for Water and Wastewater Utilities 2004 Survey
Frequency Distribution Summary

		Type						Total	
		Water only		Wastewater only		Combined			
		Count	Percent	Count	Percent	Count	Percent	Count	Percent
Please indicate whether total actual expenditures or total funds reserved was provided on the survey	**Water Pipeline**								
	Total Actual Expenditures	40	58.0%	5	38.5%	58	55.8%	103	55.4%
	Total Funds Reserved	19	27.5%	0	0.0%	31	29.8%	50	26.9%
	NA	10	14.5%	8	61.5%	15	14.4%	33	17.7%
	Water Treatment Facility and Pumping								
	Total Actual Expenditures	41	59.4%	5	38.5%	56	53.8%	102	54.8%
	Total Funds Reserved	15	21.7%	0	0.0%	30	28.8%	45	24.2%
	NA	13	18.8%	8	61.5%	18	17.3%	39	21.0%
	Wastewater Pipelines and Collection								
	Total Actual Expenditures	29	42.0%	8	61.5%	52	50.0%	89	47.8%
	Total Funds Reserved	2	2.9%	3	23.1%	32	30.8%	37	19.9%
	NA	38	55.1%	2	15.4%	20	19.2%	60	32.3%
	Wastewater Treatment Facility and Pumping								
	Total Actual Expenditures	29	42.0%	7	53.8%	55	52.9%	91	48.9%
	Total Funds Reserved	3	4.3%	5	38.5%	30	28.8%	38	20.4%
	NA	37	53.6%	1	7.7%	19	18.3%	57	30.6%

Qualserve Performance Indicators for Water and Wastewater Utilities 2004 Survey
General Quantitative Background Information

Santa Clara Valley Water District	Your Site	Water only				Wastewater only				Combined			
			Percentiles				Percentiles				Percentiles		
		Count	25	50	75	Count	25	50	75	Count	25	50	75
Wholesale Population - # of Citizens - Potable Water Service	1,482,250	43	2,633	35,000	167,000	na	na	na	na	51	3,473	15,754	51,953
Retail Population - # Electric Generation - Potable Water Service	107	61	27,000	103,000	348,189	na	na	na	na	100	41,800	100,000	252,250
Residential - # of Customer Accounts - Potable Water Service	70	64	4,781	21,747	74,311	na	na	na	na	102	12,355	28,777	77,722
Commercial / Industrial - # of Customer Accounts - Potable Water Service	37	63	328	2,500	7,796	na	na	na	na	100	1,191	2,787	5,962
Wholesale - # of Customer Accounts - Potable Water Service	8	36	2	4	8	na	na	na	na	63	2	3	12
Total Capacity(MGD) - Potable Water Service	210	67	17	61	170	na	na	na	na	102	15	34	116
Average Daily Flow(MGD) - Potable Water Service	193	67	6	24	70	na	na	na	na	104	6	19	51
Wholesale Population - # of Citizens - Wastewater Collection	0	na	na	na	na	5	25,500	50,000	99,380	30	2,850	25,252	114,394
Retail Population - # Electric Generation - Wastewater Collection	na	na	na	na	na	10	70,027	192,000	616,913	96	25,750	80,540	221,309
Residential - # of Customer Accounts - Wastewater Collection	0	na	na	na	na	10	22,464	61,726	124,308	96	8,026	22,327	65,442
Commercial / Industrial - # of Customer Accounts - Wastewater Collection	na	na	na	na	na	10	2,505	5,803	6,975	91	701	1,742	5,123
Wholesale - # of Customer Accounts - Wastewater Collection	na	na	na	na	na	6	8	11	23	33	1	2	21
Total Capacity(MGD) - Wastewater Collection	na	na	na	na	na	10	85	129	311	81	10	24	80
Average Daily Flow(MGD) - Wastewater Collection	na	na	na	na	na	9	33	71	148	84	4	12	36
Wholesale Population - # of Citizens - Wastewater Treatment	0	na	na	na	na	6	31,625	53,570	88,820	38	1,896	11,600	32,450
Retail Population - # Electric Generation - Wastewater Treatment	na	na	na	na	na	12	46,277	192,000	532,930	88	19,263	74,050	184,607
Residential - # of Customer Accounts - Wastewater Treatment	0	na	na	na	na	13	15,000	57,452	130,327	85	7,503	22,275	58,737
Commercial / Industrial - # of Customer Accounts - Wastewater Treatment	na	na	na	na	na	13	912	5,385	7,127	83	665	1,596	4,455
Wholesale - # of Customer Accounts - Wastewater Treatment	na	na	na	na	na	6	31,625	53,570	88,820	45	1	2	10
Total Capacity(MGD) - Wastewater Treatment	na	na	na	na	na	13	44	80	148	92	6	17	55
Average Daily Flow(MGD) - Wastewater Treatment	na	na	na	na	na	12	19	52	118	89	4	10	36
What percent of your utility's future capital improvement programs will be financed with debt?	75.0%	58	25.0%	50.0%	73.8%	13	50.0%	62.4%	80.0%	96	33.0%	57.0%	80.0%
What is your utility's typical time horizon for capital improvement programs in years?	10	67	5	5	10	13	5	5	10	103	5	5	8
What percent of your employees are represented by labor bargaining units?	96.0%	46	51.0%	67.0%	85.9%	9	62.0%	90.0%	99.0%	56	65.5%	78.0%	86.3%

Indicators for Water and Wastewater Utilities 2004 Survey
Accuracy Rating Summary

Confidence in the accuracy of the response is rated on a scale of 1 to 7 (1 = very low confidence, 7 = complete confidence)
Aggregate data for Water, Wastewater, and Combined operations represent averages (i.e., arithmetic means).

Santa Clara Valley Water District	Your Site	Water	Wastewater	Combined	All
What percent of your utility's future capital improvement programs will be financed with debt?	5.0	5.1	5.2	5.5	5.4
What is your utility's typical time horizon for capital improvement programs in years?	5.0	6.4	6.5	6.4	6.4
What percent of your employees are represented by labor bargaining units?	7.0	6.9	6.9	6.7	6.8
What year did your utility first provide water service?	7.0	6.8	na	6.3	6.5
What year did your utility first provide wastewater service?	na	7.0	6.7	6.2	6.3
What is your utility's current Corporate Bond Rating?	7.0	6.8	6.9	6.8	6.8
Total work days away from work	6.0	6.6	6.5	6.4	6.5
Total hours worked by all employees	6.0	6.4	6.1	6.1	6.3
Qualified formal training hours completed by all employees	6.0	5.4	5.3	5.1	5.2
Number of full time equivalents (FTEs) worked by employees	6.0	6.5	6.6	6.3	6.4
Number of active water accounts	7.0	6.7	na	6.8	6.7
Number of active wastewater accounts	na	7.0	6.8	6.7	6.7
Average daily volume of water distributed (in MGD)	6.0	6.7	na	6.7	6.7
Average daily volume of wastewater distributed (in MGD)	na	7.0	6.8	6.6	6.7
FTEs supporting water service (include support)	6.0	6.4	na	6.1	6.2
FTEs supporting wastewater service (include support)	na	7.0	6.9	6.1	6.3
Number of active customer accounts	7.0	6.7	6.8	6.5	6.6
Customer service associated complaints	6.0	4.7	4.6	4.4	4.5
Technical quality of service complaints	7.0	5.3	5.9	5.2	5.3
Planned Water Service Disruptions (less than 4 hours)	5.0	5.3	na	5.2	5.2
Planned Water Service Disruptions (Between 4 and 12 hours)	5.0	5.5	na	5.1	5.3
Planned Water Service Disruptions (Greater than 12 hours)	5.0	6.0	na	5.6	5.8
Unplanned Water Service Disruptions (less than 4 hours)	5.0	5.5	na	5.1	5.3
Unplanned Water Service Disruptions (4 and 12 hours)	5.0	5.6	na	5.2	5.4
Unplanned Water Service Disruptions (Greater than 12 hours)	5.0	6.0	na	5.6	5.8
Active customer accounts	6.0	6.7	na	6.8	6.7
Monthly residential water using 7500 Gs per mth	na	6.8	na	6.8	6.8
Average residential water bill amount for one mth of svc	na	6.4	na	6.5	6.5
Monthly residential sewer using 7500 Gs per mth	na	6.7	6.8	6.8	6.8
Average residential sewer bill amount for one mth of svc	na	6.7	6.8	6.6	6.6
Multi-svc, monthly bill - comb. svc using 7500 Gs per mth	na	6.9	na	6.6	6.7
Multi-svc, avg residential comb. bill for one mth of svc	na	6.9	na	6.4	6.6
Customer Service Costs (include all supporting functions)	6.0	5.6	6.0	5.8	5.8
Number of Active Customer Accounts	7.0	6.6	6.9	6.6	6.6
Bills generated during the reporting period	5.0	6.2	6.4	6.3	6.3
Number of error-driven billing adjustments	6.0	5.4	5.7	5.4	5.4
Total Liabilities	7.0	6.6	6.8	6.6	6.6
Total Assets	7.0	6.6	6.7	6.5	6.5
Total present worth of renewal and replacement needs	5.0	5.4	na	5.3	5.3

Indicators for Water and Wastewater Utilities 2004 Survey
Accuracy Rating Summary

Confidence in the accuracy of the response is rated on a scale of 1 to 7 (1 = very low confidence, 7 = complete confidence)
Aggregate data for Water, Wastewater, and Combined operations represent averages (i.e., arithmetic means).

Santa Clara Valley Water District	Your Site	Water	Wastewater	Combined	All
Weighted average life (average)	5.0	5.9	5.8	5.6	5.6
Water Pipeline	5.0	5.6	na	5.7	5.7
Water Treatment Facility and Pumping	5.0	5.4	na	5.6	5.6
Wastewater Pipelines and Collection	na	6.3	6.0	5.6	5.7
Wastewater Treatment Facility and Pumping	na	6.3	5.7	5.6	5.6
Expenditures or funds reserved for renewal / replacement	6.0	6.5	5.6	6.0	6.0
Water Pipeline	6.0	6.0	na	6.0	6.0
Water Treatment Facility and Pumping	6.0	5.9	na	6.0	5.9
Wastewater Pipelines and Collection	na	7.0	5.6	6.0	6.1
Wastewater Treatment Facility and Pumping	na	7.0	5.7	6.1	6.1
Net Income	7.0	6.7	6.8	6.5	6.6
Total Assets	7.0	6.7	6.9	6.6	6.6
Calendar days when the utility was in full compliance	7.0	6.9	na	6.8	6.9
Total volume of water distributed for customer use	5.0	6.6	na	6.6	6.6
Total volume of water billed to customers	5.0	6.4	na	6.3	6.3
Total miles of distribution piping	7.0	6.4	na	6.1	6.2
Total number of leaks during the reporting period	7.0	5.9	na	5.6	5.8
Total number of pipeline breaks experienced	7.0	6.1	na	5.9	6.0
Operations and maintenance costs (less depreciation)	7.0	6.5	7.0	6.3	6.4
Total number of active accounts	7.0	6.7	6.8	6.8	6.7
Total volume processed in million gallons	4.0	6.7	6.7	6.7	6.7
Direct operations and maintenance costs for water	6.0	5.9	6.4	6.1	6.0
Hours of planned maintenance	5.0	4.5	5.0	4.7	4.7
Hours of corrective maintenance	5.0	4.6	4.9	4.8	4.7
Cost of planned maintenance	5.0	4.3	4.9	4.8	4.6
Cost of corrective maintenance	5.0	4.4	5.1	4.7	4.6
Number of sewer overflows	na	na	6.2	6.3	6.3
Total miles of pipe in the utility's collection system	na	7.0	6.4	6.1	6.2
Number of collection system failures	na	7.0	5.6	5.8	5.8
Total miles of collection system pipeline	na	7.0	6.4	6.1	6.2
Operating/discharge permits issued to the utility	na	7.0	6.9	6.9	6.9
Standard non-compliance days at each facility	na	7.0	6.4	6.7	6.7